

## Possible Evidence of the Southern Brown Bandicoot *Isoodon obesulus*, from Deal Island, Kent Group, Bass Strait, Tasmania

### Observations

In March 1999 the authors visited Deal Island (Kent Group) to survey the island for burrowing crayfish species. The Kent Group is located about halfway between the southern tip of Wilsons Promontory and the northern tip of Flinders Island, and comprises about six islands, the main three being Deal Island (c. 1577 ha) and the conjoined Dover and Erith islands (c. 295 ha and 323 ha, respectively) about one kilometre to the west across a channel (39°28'S, 147°21'E). Deal Island is a conservation area but has been highly modified by a long history of fire, land clearing and grazing.

The pictured shelter/nest (Fig. 1) was located on the eastern side of Deal Island in closed *Allocasuarina* woodland. Given the size of the structure (see watch for scale), its location on the ground and the type of construction ("interwoven" sheoak needles), combined with the habitat (grassy *Allocasuarina* woodland), it is postulated that the builder *might* be a southern brown bandicoot, *Isoodon obesulus*. Unfortunately, no collections of seats and/or hair were made from within and around the structure, and no obvious conical diggings were observed in the vicinity.

Other ground-dwelling candidates as owner of the structure are the Tasmanian bettong *Bettongia gaimardi*, although there are no records of this species from the Bass Strait islands (Rounsevell *et al.* 1991), or long-nosed potoroo, *Potorous tridactylus*, although the structure appears to be too small for this species. The absence of ground predators, such as the Tasmanian devil *Sarcophilus harrisi* and species of quoll (*Dasyurus viverrinus* and *D. maculatus*), means that the structure could even belong to arboreal species such as the common brushtail possum *Trichosurus vulpecula* or the common ringtail possum *Pseudocheirus peregrinus*. The latter species often builds nests (dreys) in trees but might construct a nest on the ground in the absence of predators,

although this particular structure is unlikely to belong to this species. Further candidates for constructing such a shelter might include introduced rats such as *Rattus norvegicus*, which is recorded for the island (Brothers *et al.* 2001), or even native rats such as *Rattus lutreolus*, which is possibly present on the island (Brothers *et al.* 2001). However, given that the nest was in a remote part of the island (i.e. away from the main settlement) and in quite open vegetation, the possibility of a rat nest seems remote but is by no means impossible.

Rounsevell *et al.* (1991) indicated that the southern brown bandicoot is widespread throughout mainland Tasmania but is absent from all islands except Maria Island (where it is introduced), Bruny Island and "West Sisters Island" in the Furneaux Group (Hope 1972), where it was last collected in 1987.

Brothers *et al.* (2001) did note that the southern brown bandicoot occurs on Deal Island and the nearby Erith Island, but no evidence is available to support this observation (in the form of database or museum records), although its veracity is not questioned. If the structure described in this note does belong to a southern brown bandicoot, the observation may be significant because the species is only formally known from Inner (West) Sister Island off the northern tip of Flinders Island. Similar structures to the one pictured have been observed on nearby Erith Island and despite camera-trapping (remote-controlled nocturnal photography), the owners were not detected, although introduced rats were (D Pemberton pers. comm.), and footprints possibly belonging to the bandicoot were also observed (D Pemberton and B Lazenby pers. comm.).

Hope (1972) and Brothers *et al.* (2001) listed the common brushtail possum as being present on the Deal Island and the nearby Erith and Dover Islands. Brothers *et al.* (2001) indicated the long-nosed potoroo as being present on Erith Island

and Hope (1972) reported subfossil collections of the potoroo from Deal Island from a gully above Winter Cove.

In conclusion, in the absence of other evidence such as scats or hairs, it is not possible to confirm the identity of the owner of this structure. However, the information is presented to allow discussion of its possible significance, especially if further evidence comes to light of southern brown bandicoots, common ringtail possums or long-nosed potoroos being present on Deal Island itself or on nearby Erith and Dover Islands. Further surveys for mammals on the Kent Group using a variety of techniques (e.g. hair-tubes, camera-traps, small and large cage traps, spotlighting, scats and tracks survey) appears to be warranted.

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#### References

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Fig. 1. Structure made predominantly of sheoak needles. The entrance is c. 10 cm diameter and extends for about 20-30 cm back into the image. The raised Sheoak needles at the top centre of the image are where they rest against a small diameter Sheoak stem. The watch provides a scale. It is noted that the structure is remarkably similar to the nest of a Long-nosed Bandicoot *Perameles nasuta* picture on page 216 of Triggs (1996).